

IN THE ABSTRACT

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NEW ABSTRACT

An image processing system, for correlating shapes in multi-dimensional images including image data processor for estimating a similarity measure including estimating two image signals representing shapes defined in respective windows in two multi-dimensional images using a Hermite Transform applied to both the image signals for performing an evaluation of two first sets of scalar valued Hermite coefficients from which a combination yields a transformed set of scalar valued Hermite coefficients  $\{K_i\}$ . The inverse Hermite Transform is applied to the transformed set of scalar valued Hermite coefficients to achieve the computation of a windowed correlation function. The maximum of the windowed correlation function is estimated as the wanted similarity measure to correlate the shapes. The correlated shapes and/or processed images are displayed.